REMARKS/ARGUMENTS

OUTLINE OF THE PROSECUTION

The instant application was filed on July 27, 2001 with the 62 claims set forth above. On September 19, 2002, the Office requested restriction of the claims between the two following groups:

Group I. claims 1-54, drawn to a method for enhancing sexual desire and responsiveness in a female;

Group II. Claims 55-62, drawn to pharmaceutical compositions.

On November 19, 2002, applicants elected the claims of Group I, without traverse. With the present amendment, applicants have canceled non-elected claims 55-62.

In the Office Action under reply, claims 1-54 have been rejected under 35 U.S.C. § 112, first paragraph, as not enabling. This rejection is addressed in the discussion that follows.

CLAIM REJECTION - 35 U.S.C. § 112, FIRST PARAGRAPH

Claims 1-54 stand rejected under 35 U.S.C. § 112, first paragraph, as not enabling. This rejection is respectfully traversed.

35 U.S.C. § 112, first paragraph, reads as follows:

> *The specification shall* contain a written description of the invention, *and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same,* and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The purpose of the enablement requirement is to assure that the inventor provides sufficient information about the claimed invention that a person of skill in the field of the invention can make and use it without undue experimentation, relying on the specification and the knowledge in the art. *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1896 (Fed. Cir. 1991). The enablement requirement is met if the description enables any mode of making and using the claimed invention. *Engel Industries, Inc. v. Lockformer Co.*, 946 F.2d 1528, 20 USPQ2d 1300 (Fed. Cir. 1991). The Federal Circuit has explained that the question of undue experimentation is not a single, simple factual determination, but rather, it is a conclusion that is reached by weighing many factual considerations. *In re Wands,* 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988) (The key word is "undue," not "experimentation.").

In *In re Wands,* the Federal Circuit set forth eight factors to consider when determining whether a disclosure would require undue experimentation, they are: (1) the quantity of experimentation necessary;

(2) the amount of direction or guidance presented; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. The Federal Circuit has, on more than one occasion, cautioned that the *Wands* factors are illustrative and not mandatory and that all of the factors need not be reviewed when determining whether a disclosure is enabling. *Enzo Biochem., Inc. v. Calgene, Inc.*, 188 F.3d 1362, 52 USPQ2d 1129 (Fed. Cir. 1999), citing, *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991), *cert. denied,* 502 U.S. 856 (1989).

Applying the *Wands* factors, the Examiner takes the position that the claimed invention is not enabling. The following discussion will demonstrate the errors in the Examiner's *Wands* factor analysis and why the claimed invention is legally enabling.

1. **THE NATURE OF THE INVENTION:**

The Examiner characterizes the nature of the invention as "extremely complex in that it requires that female sexual desires be enhanced" and that the "biological pathways involved in such enhancement is complex since it involves various hormones" (Office Action, p. 3, 1st para.).

Applicants submit that complexity of an invention is ***not*** an enabling-defeating factor and should ***not*** be considered in the evaluation of the "nature of the invention" *Wands* factor. Guidance on interpreting the "nature of the invention" *Wands* factor is set forth at MPEP § 2164.05(a). There, it explains that the nature of the invention, i.e., the subject matter to which the claimed invention pertains, is the backdrop to determine the state of the art and the level of skill possessed by one skilled in the art (MPEP, 8th ed., Rev. Feb. 1, 2003, p. 2100-184). If the state of the art shows that the ordinary artisan would believe that the nature of the invention was possible at the time the application was filed, then the claimed invention is enabled by the disclosure. The MPEP explains that the pertinent art should be defined in terms of the *problem to be solved* rather than in terms of the technology area, industry, trade, etc. for which the invention is used (page 2100-185, second full para.)

The problem to be solved by the claimed invention is reduced female sexual responsiveness and desire (see, spec., p. 4, ll. 7-11). The medicaments and/or hormones used to solve this problem or the complex biological pathways that the medicaments and/or hormones regulate, is ***not*** the problem to be solved; these medicaments and/or hormones are merely methods by which the ordinary artisan will attempt to solve the problem.

With the nature of the invention properly identified, the references cited in the IDS, even those that teach against the claimed invention, show that at the time the application was filed, the ordinary

artisan was addressing the problems of female sexual dysfunction and attempting to find ways to improve female sexual responsiveness as well as the physical manifestations that lead to problems in female sexual behavior.

To wit, in the January 16, 1995, Hutchinson article cited by the Examiner (Cite No. "BM" in the IDS of July 27, 2001), Dr. Hutchinson proposes that in female subjects, "tonic" levels of testosterone may be more important to female sexual behavior than "cyclic" levels of testosterone (Abstract and p. 1A-1136, 2nd col., 2nd para.). Dr. Hutchinson notes that this intriguing difference has not yet been investigated. With respect to Dr. Hutchinson's comment regarding the role of androgens in adult female sexuality, Dr. Hutchinson notes that there is no *evidence* that exogenous androgens play a role in the treatment of female sexual dysfunction; Dr. Hutchinson *does not* conclude that androgens are not effective in treating female sexual dysfunction; indeed, her comment regarding the tonic and cyclic effects of testosterone levels in females indicates that she is open to the possibility that testosterone may in fact play a role in female sexual behavior.

In the 1983 Mathews et al. article cited by the Examiner (Cite No. "BN" in the IDS of July 27, 2001), Mathews et al. found that 10 mg. of testosterone administered daily to women subject was not effective at improving the sexual responsiveness of the female subjects in the study. As described by Mathews, the taste of the pills affected compliance (p. 85, 1st col.). Regardless of the outcome of the study, the study shows that the ordinary artisans were investigating the nature of the lack of female responsiveness with androgen therapy at least as early as 1983.

Similarly, each of articles and patents cited in the IDS of July 27, 2001, were submitted to show that skilled artisans in the field of sexual research were actively addressing the problem of female sexual responsiveness and dysfunction prior to the filing date of the application. Based on this showing, applicants submit that the nature of the invention was enabling as of the July 27, 2001, filing date of the instant application.

2. THE BREADTH OF THE CLAIMS:

The Examiner asserts that the complex nature of the claims is "greatly exacerbated" by the breadth of the claims, which encompasses a multitude of androgenic agents (Office Action, p. 3, ¶ 2).

The Examiner's statement under this factor is premised on the Examiner's mistaken characterization of the nature of the invention as explained above. Turning again to the MPEP for guidance, MPEP § 2164.08 explains that claims cannot be rejected as overly broad for not reciting limitations that are known to one or ordinary skill in the art. MPEP § 2164.08 citing *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1558, 220 USPQ 303, 316-317 (Fed. Cir. 1983); *In re Johnson,* 558

F.2d 1008, 1017, 194 USPQ 187, 195 (CCPA 1977). To illustrate the importance of this requirement, the MPEP quotes the following statement from *In re Goffe,* 542 F.2d 564, 567, 191 USPQ 429, 431 (CCPA 1976):

> [T]o provide effective incentives, claims must adequately protect inventors. To demand that the first to disclose shall limit his claims to what he has found will work or to materials which meet the guidelines specified for "preferred" materials in a process such as the one herein involved would not serve the constitutional purpose of promoting progress in the useful arts. MPEP § 2164.08, p. 2100-191, 2nd col., 1st para.

The MPEP further explains that when analyzing the enabling scope of a claim, the teachings of the specification must not be ignored because claims are to be given their broadest reasonable interpretation consistent with the specification. MPEP § 2164.08, p. 2100-191, 2nd col., 2nd para.

With respect to the issue of undisclosed species, this issue primarily comes into play when an inventor is claiming a new species of plant, animal etc. for which the ordinary artisan would have no knowledge prior to the disclosure in the patent document at issue. Referring to the example given in the MPEP at section 2164.08, in *Amgen v. Chugai,* the Federal Circuit held that Amgen could not generically claim all analogs of the newly cloned EPO gene because only a few EPO genes were disclosed in the Amgen patent and there might be other genetic sequences that code for EPO-type products. MPEP § 2164.08, p. 2100-192, 1st col., 1st para., citing, *Amgen v. Chugai Pharmaceutical Co.,* 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir.), *cert. denied,* 502 U.S. 856 (1991);

In the instant case, applicants are ***not*** claiming a newly cloned DNA, a genetic sequence, or any other composition that is identifiable only through extensive experimentation; rather, applicants are claiming androgenic agents, i.e., known hormones that are unequivocally set forth in the specification at page 10, line 27 to page 12, line 13. Accordingly, applicants submit that the breadth of the claims is enabled by the disclosure in the specification.

3. THE AMOUNT OF DIRECTION OR GUIDANCE PRESENTED:

The Examiner asserts that the guidance in the specification as to how one would administer the claimed compounds to a subject in order to enhance sexual desire in a female is limited. It is the Examiner's position that the examples only relate to tests for determining the female's sexual desire but not the results of the tests and thus, the specification outlines a protocol but no results (Office Action, p. 3, ¶ 3).

Applicants submit that the results of disclosed experiments are irrelevant to the "amount of direction or guidance" *Wands* factor; the following discussion explains why this is the case. MPEP § 2164.03 explains that the "amount of guidance or direction" refers to the information in the application, as originally filed, that teaches exactly ***how to make or use*** the invention. MPEP § 2164.03, p. 2100-182, 1st col., 1st ¶). Contrary to the Examiner's position, the MPEP does ***not*** require that the application present "results" derived from the invention; all that is required is that the ordinary artisan, upon reading the specification, knows *how to make and use* the invention. This important provision of the enablement requirement is also emphasized at MPEP § 2164.04, which provides Examiners with guidance on preparing enablement rejections. *See,* MPEP § 2164.04, p. 2100-183, 2nd col., first five lines ("The language should focus on those factors, reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation...").

The Examiner's recognition that the specification outlines a protocol indicates that he acknowledges that applicants have provided a sufficient disclosure to enable the skilled artisan to make and use the claimed method. As explained immediately above, the Examiner's request for "results" is outside the boundaries of this *Wands* factor.

4. THE PRESENCE OR ABSENCE OF WORKING EXAMPLES:

In a statement related to that discussed directly above, the Examiner contends that all of the working examples in the specification are directed only towards a protocol (Office Action, p. 3, ¶ 4).

The Examiner's statement under this factor is premised on the Examiner's mistaken interpretation of the "amount of direction or guidance" *Wands* factor. When the "amount of direction or guidance" *Wands* factor is correctly applied as demonstrated above, it follows that the working examples provided in the application fully support the enabling disclosure. *See,* MPEP § 2164.02 for a discussion of the "working example" *Wands* factor.

5. THE STATE OF THE PRIOR ART:

The Examiner asserts that the state of the art is that androgenic agents will not enhance sexual desire in a female. Based upon the state of the art as interpreted by the Examiner, the Examiner maintains that the application does not provide data that all androgenic agents, or a reasonable representation thereof, will enhance sexual desire in a female (Office Action, p. 4, ¶ 1).

As will be explained in detail *infra*, the state of the art is used to determine the amount of detail that must be provided in the specification in order for it to be enabling; state of the art that is contradictory

to a claimed invention will only render an invention non-enabling if the application fails to provide enough detail to overcome the deficiencies in the prior art.

MPEP § 2164.05(a) explains that the state of the prior art is what one skilled in the art would have known at the time the application was filed about the subject matter to which the claimed invention pertains. MPEP § 2164.05(a), p. 2100-184, 2nd col., 2nd ¶. The state of the prior art provides evidence for the degree of predictability in the art and is related to the amount of direction or guidance needed in the specification as filed to meet the enablement requirement. MPEP § 2164.05(a), p. 2100-184, 2nd col., 3rd ¶. The state of the prior art is also related to the need for working examples in the specification. *Id.* MPEP § 2164.03 explains that the amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability of the art. MPEP § 2164.03, p. 2100-182, 1st col., 1st ¶. Thus, when a great deal is known in the prior art about the nature of the invention and the invention is in a predictable art, then less information on how to make and use the invention is required in the specification. *Id.* By contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, then in order for the specification to be enabling, it must disclose more detail on how to make and use the invention. *Id.*

As indicated by the references submitted in the IDS of July 27, 2001, while the topic of female sexual dysfunction has not been widely addressed, it has been moderately addressed from at least as early as 1983 (*see, e.g.,* Mathew et al. reference), with varying results. Accordingly, for the claimed invention to be enabling, the specification of the instant application should err on the side of more rather than less detail on how to make and use the claimed invention. A review of the specification of the instant application reveals that the applicants have provided sufficient disclosure to enable the ordinary artisan to make and use the invention. The specification provides over 4 pages of definitions; 10 pages of primary and secondary agents and derivatives that may be used in the claimed invention; 3 pages of oral dosage forms; 7 pages of topical dosage forms; 4 pages of transmucosal dosage forms; 1 page of transdermal dosage forms; almost 1 page of parenteral dosage forms; 3 pages of guidance on administration of the dosage forms; 2 pages of guidance on preparing kits for the administration of the pharmaceutical formulations; and 12 examples. The total length of the specification is 46 pages, not counting the claims. Accordingly, in keeping with the requirements of the "prior art" *Wands* factor, the applicants have more than adequately compensated for the deficiencies in the teachings of the prior art by providing a specification that is sufficiently detailed to enable the skilled artisan to make and use the claimed invention.

6. THE PREDICTABILITY OR UNPREDICTABILITY OF THE ART:

The Examiner contends that the claimed invention is unpredictable because the specification and the prior art do not provide sufficient guidance for enhancing sexual desire in a female (Office Action, p. 4, ¶ 2).

MPEP § 2164.03 explains that the "predictability or lack thereof" in the art refers to the ability of one skilled in the art to extrapolate the disclosed or known results to the claimed invention. MPEP § 2164.03, p. 2100-182, 1st col., 2nd ¶. In other words, if one skilled in the art can readily anticipate the effect of a change within the subject matter (such as a newly found species) to which the claimed invention pertains, then there is predictability in the art. *Id.* By contrast, if one skilled in the art cannot readily anticipate the effect of a change within the subject matter to which that claimed invention pertains, then there is a lack of predictability in the art. *Id.* With respect to the amount of disclosure required in an unpredictable art, the MPEP notes that even in unpredictable arts, a disclosure of every operable species is not required, but more than one will usually be necessary. MPEP § 2164.03, p. 2100-182, 2nd col., 2nd ¶.

In the instant case, as set forth above, approximately ten pages of primary and secondary agents are set forth in the detailed description of the invention. Within these ten pages, close to two pages list androgenic agents that may be used within the context of the claimed invention; these androgenic agents are found in the specification at page 10, line 23 to page 12, line 13. This detailed disclosure more than adequately makes up for an unpredictability in the art with respect to androgenic agents that may or may not work within the context of the claimed invention.

7. THE QUANTITY OF EXPERIMENTATION:

The Examiner contends that the practice of the claimed invention requires undue and unpredictable experimentation. It is the Examiner's position that in order to practice the claimed invention, the skilled artisan would have to envision a combination of: an appropriate pharmaceutical carrier; compound dosage; duration of treatment; route of administration; and appropriate animal model for one of the claimed compounds, and test the combination in order to determine if the agents are effective for enhancing sexual desire in a female. The Examiner posits that the results of the test will likely be unsuccessful in light of the guidance in the specification and the prior art. Against this negative view of the claimed invention, the Examiner takes the position that the unpredictable claimed process would have to be subject to repeat undue experimentation (Office Action, pp. 4-5).

With all due respect, the Examiner appears to be importing his own skepticism of the claimed invention into this *Wands* factor. As the following discussion will demonstrate, the quantity of

experimentation required in order to deem a disclosure enabling is an objective analysis, not a subjective perspective.

At MPEP § 2164.06, the MPEP quotes the following statement from *In re Colianni*: "An extended period of experimentation may not be undue if the skilled artisan is given sufficient direction or guidance." MPEP § 2164.06, quoting, *In re Colianni,* 561 F.2d 220, 224, 195 USPQ 150, 153 (CCPA 1977). Thus, in response to the Examiner's assertion that the claimed invention requires "undue experimentation," applicants note that the androgens of the claimed invention have not been disclosed on the presumption that they will not work; rather, they have been claimed as an invention that is new, useful, and nonobvious. That the claimed invention goes against what was known in the prior art merely goes to the heart of the nonobviousness of the claimed invention. *See, Kloster Speedsteel AB v. Crucible, Inc.,* 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986), *on rehearing,* 231 USPQ 160 (Fed. Cir. 1986) (That the inventor achieved the claimed invention by doing what those skilled in the art suggested should not be done is a fact strongly probative of nonobviousness). Indeed, applicants note that had the prior art shown that androgens are capable of enhancing female sexual responsiveness and desire, then applicants would not have filed a patent application directed to this new, useful, and nonobvious invention.

The present invention provides 12 different examples to guide and direct the skilled artisan in practicing the claimed invention. Within each of these examples, any of the disclosed androgenic agents may be used. To be sure, the instant application is ***not*** an invitation for to those of ordinary skill in the art to perform experiments to see which of the recited androgenic agents will work; rather, the instant application is a disclosure of those known androgenic agents at the time of the invention that are operable within the claimed invention. Accordingly, because the instant application (i) provides sufficient guidance for those of ordinary skill in the art to perform the disclosed experiments; (ii) discloses sufficient species of androgenic agents; and (iii) provides twelve examples to assist the ordinary artisan in practicing the claimed invention on the disclosed species of androgenic agents, it follows that the disclosure of the instant application is sufficient to satisfy the "quantity of experimentation" *Wands* factor.

8. THE RELATIVE SKILL OF THOSE IN THE ART:

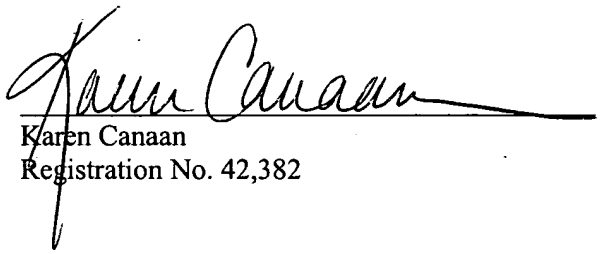
The Examiner provides no commentary on this *Wands* factor. Applicants are interpreting the Examiner's silence on this factor to be an acknowledgement that the application is enabling to persons skilled in the art of sexual research on female subjects. *See,* MPEP § 2164.05(b) for a discussion of the requirements for the *Wands* factor relating to the relative skill of those in the art.

CONCLUSION

As set forth on page 2 of this paper, the *Wands* factors are eight factors that the Federal Circuit has promulgated in order to determine whether a disclosure would require "undue experimentation." Since "undue experimentation" is the touchstone of an enablement rejection, it follows that inventions that do not require undue experimentation are enabling.

The foregoing analysis demonstrates that the claimed invention satisfies each of the *Wands* factors. Accordingly, the claimed invention does not require "undue experimentation" and thus, satisfies the enablement requirement of 35 U.S.C. § 112, first paragraph. In light of the foregoing, applicants respectfully request reconsideration and withdrawal of the enablement rejection for this application and early passage of this application to allowance.

Respectfully submitted,

By: 

Karen Canaan
Registration No. 42,382

REED & EBERLE LLP
800 Menlo Avenue, Suite 210
Menlo Park, California 94025
(650) 330-0900 Telephone
(650) 330-0980 Facsimile

F:\Document\9050-0013.23\Amdt under 1.111.DOC